APPALACHIAN TENNESSEE MARBLE

INDEX

APPALACHIAN MARBLE COMPANY

KNOXVILLE - TENNESSEE

A PARTIAL LIST OF APPALACHIAN INSTALLATIONS WITH ARCHITECTS NAMES AND THEIR ADDRESSES.

Name of Job, Architect and Address.

Durant Hotel, Flint, Mich.—Esenwein & Johnson, Buffalo, N. Y.

First State Bank, Royal Oak, Mich.—Fred'k D. Madison, Royal Oak, Michigan.

People's Savings Bank, Barberton, Ohio—Nachtegall Manufacturing Co., Grand Rapids, Mich.

Buffalo City Hospital Group, Buffalo, New York—Green & Wicks, Buffalo, N. Y.

East Side School, Cincinnati, Ohio—Garber & Woodward, Cincinnati, Ohio.

Erie Academy, Erie, Pa.—Wm. B. Ittner, St. Louis, Mo.

Chas. Vernon Gridley School, Erie, Pa.—Wm. B. Ittner, St. Louis, Missouri.

Christopher Columbus School, Erie, Pa.—Wm. B. Ittner, St. Louis, Missouri.

City Hall, Galveston, Texas—C. D. Hill & Co., Dallas, Texas.

First National Building, El Paso, Texas—Barglebaugh & Whitson, El Paso, Texas.

Bienville Apartments, New Orleans, La.—Toledano, Wogan & Bernard, New Orleans, La.

Albany Court House, Albany, N. Y.—Ogden & Gander, Albany, N. Y.

Signal Mountain Inn, Chattanooga, Tenn.—Alsop & Phillips, Chattanooga, Tenn.

Exchange Bank, Olean, N. Y.—Mowbray & Uffinger, New York City, N. Y.

Green County Court House, Jefferson, Iowa—Proudfoot, Bird & Rawson, Des Moines, Iowa.

Hubbell Building, Des Moines, Iowa—Proudfoot, Bird & Rawson, Des Moines, Iowa.

Valley National Bank Building, Des Moines, Iowa—Proudfoot, Bird & Rawson, Des Moines, Iowa.

General Motors Building, Detroit, Mich.—Albert Kahn, Detroit, Michigan.

Fidelity Trust Company, Knoxville, Tenn.—Manley & Young, Knoxville, Tenn.

First National Bank, Birmingham, Ala.—Warren, Knight & Davis, Birmingham, Ala.

Jacksonville Terminal Station—Kenneth M. Murchison, New York City, N. Y.

Metacomet National Bank, Fall River, Mass.—Nachtegall Mfg. Co., Grand Rapids, Mich.

Fulton National Bank, Atlanta, Ga.—R. S. Pringle, Atlanta, Ga.

National Bank of Commerce, Fort Worth, Texas—Sanguinet & Staats, Houston, Texas.

Huntington National Bank, Columbus, Ohio—Frank L. Packard, Columbus, Ohio.

Federal Reserve Bank Annex, Richmond, Va.—Carneal & Johnson, Richmond, Va.

Federal Reserve Bank, Houston, Texas—Sanguinet & Staats, Houston, Texas.

Union Arcade Building, Pittsburgh, Pa.—F. E. Osterling, Pittsburgh, Pa.

Volunteer State Life Insurance Bldg., Chattanooga, Tenn.—Barnwell & Barnwell, Chattanooga, Tenn.

Appalachian Roseal

Kenneth M. Murchison, New York Architect, designer of the beautiful Jacksonville Terminal, Jacksonville, Florida, selected Appalachian Roseal for the wainscoting of this station. Other Appalachian Marbles were used throughout the building.

Polished samples of Appalachian Roseal will be sent to any Architect interested in its use.

When strong, rich veining is desired; when mottled Persian coloring blends well with the color scheme planned; when an out-of-the-ordinary interior marble treatment or interior marble trim is needed Appalachian Roseal answers the problem perfectly.

Appalachian Roseal is quarried and milled exclusively by this company. Fortunately our supply is practically unlimited for more and more architects throughout the nation are yearly coming to specify it instead of foreign marbles of similar coloring. They have been won to its use because in Appalachian Roseal they secure equal beauty with higher quality, at a considerably lower price.

(See page 17 for full particulars of the unusually fine service department which has been established by this company for American Architects and Contractors).

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Send Blue Prints and Specifications to Appalachian Service Department for Cost Estimate.

Appalachian Golden Vein

The banking rooms of the Fulton National Bank of Atlanta, Ga., are warm in tone—the atmosphere is one of sincere welcome—yet dignity has at no place been sacrificed. The interior marble throughout this building is Appalachian Golden Vein.

R. S. PRINGLE, of Atlanta, Ga.,
Architect.

Appalachian Golden Vein is the marble above all others capable of imparting to an interior the effect of mellow richness.

Interiors that would be almost repelling in their coldness if executed in a marble of less warmth become cheery and welcoming when Appalachian Golden Vein is used.

Appalachian Golden Vein is an exclusive Appalachian product. No other marble quarried resembles it. Yet notwithstanding its exclusiveness and its remarkable beauty its cost is considerably lower than marbles of like quality.

It is available in reasonable quantities.

We will be very glad to send you a polished sample of Appalachian Golden Vein, if you wish it.

(Pages 17 to 19 tell of the unusual cooperation which the Service Department of the Appalachian Marble Company extends to America's Architects and Contractors).

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Appalachian Gray

The Court House Building at Baton Rouge, La., recently designed by Edward F. Neild of Shreveport, La., is one of a great number of structures in which Appalachian Gray has been used.

Architects interested in Appalachian Gray will be furnished with polished samples of this beautiful marble on request.

Appalachian Gray may be used with equally pleasing effects in practically any type of building. It lends an inviting atmosphere of coolness and simple dignity to an interior. It is restful and satisfying.

Its veining and coloring is remarkably uniform. It is available in unlimited quantities, and its price is considerably lower than marbles of corresponding quality.

The use of Appalachian Gray is practically nation wide. It is one of the most popular marbles that we quarry.

(Pages 9 to 12 give an interesting technical report on Tennessee marble prepared by T. Nelson Dale, retired Geologist, U. S. Geological Survey).

APPALACHIAN MARBLE COMPANY
KNOXVILLE TENNESSEE

Appalachian Champion Pink

A glimpse of the interior marble erected in the Bell Telephone Building, Jno. T. Windrim, architect, Philadelphia, Pa. This marble is Appalachian Champion Pink—selected because of its dignity and simple beauty.

(Polished samples of Appalachian Champion Pink will be sent to any Architect interested in the use of this marble on request).

Appalachian Champion Pink is warm as an opal in its coloring. The deep rich veining which runs through it brings out these delicate pink tones in strong contrast.

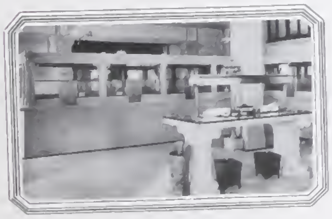
Architects use it where they desire to create an atmosphere of warmth and vitality in their color scheme.

Appalachian Champion Pink has been used in many of America's finest buildings and each year finds it more and more popular with American Architects.

(The Appalachian Service Department is made up of interior marble experts and is operated by this Company for America's Architects and Contractors. It is described on pages 17 to 19).

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Appalachian Silver Gray



The Nachtegall Manufacturing Company of Grand Rapids, Mich., who erected the interior marble in the Metacomet National Bank, Fall River, Mass., selected Appalachian Silver Gray for this building. The effect obtained was most pleasing.

Architects interested in the use of Appalachian Silver Gray will be sent polished samples of this marble on request.

Appalachian Silver Gray is the lightest gray marble quarried in Tennessee. Most architects prefer it to the finest Italian White marbles. This preference is based both on its delicate coloring and considerably lower price.

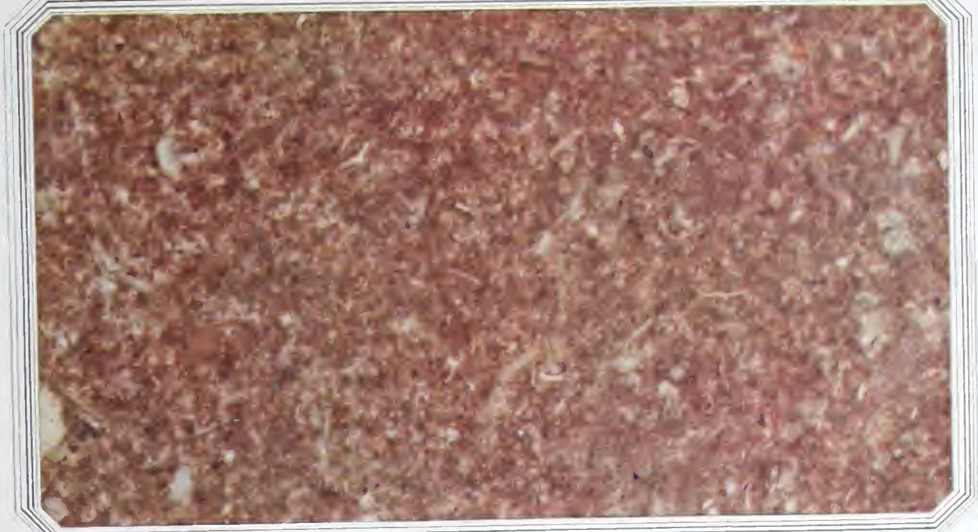
Appalachian Silver Gray like all other Appalachian Marbles can be delivered on the shortest possible notice in cases of emergency as we take all Appalachian Marbles from our own quarries and mill them in our own plant.

(Consider the Appalachian Service Department as part of your own organization. Its services are freely offered to America's Architects and Contractors. Complete description of this service Page 17.)

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Send Blue Prints and Specifications to Appalachian Service Department for Cost Estimate.

Appalachian Dark Chocolate



Appalachian Dark Chocolate is used as the marble trim in the Albany City Hall, Albany, N. Y., Ogden & Gander, architects, Albany, N. Y. Its rich, deep coloring adds greatly to the marble with which it has been used.

Polished samples of Appalachian Dark Chocolate will be furnished to any Architect interested in its use.

Appalachian Dark Chocolate is used as an interior marble trim. Its deep brown coloring serves to bring out in bold contrast the lighter marbles used with it. Its use is almost entirely confined to base work and we know of no marble quarried today which excels it for this purpose.

(The Service Department of the Appalachian Marble Company described on pages 17 to 19 is one of the most complete organizations in the country).

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Send Blue Prints and Specifications to Appalachian Service Department for Cost Estimate.

Approximately 135,000 square feet of Appalachian Floor Tile were used in the Union Arcade Building, Pittsburgh, Pa. F. J. Osterling, Architect, Pittsburgh, Pa.

APPALACHIAN FLOOR TILE

We carry on hand at all times large quantities of Floor Tile ready for immediate shipment. This tile is available in two standard sizes, 8″x16″ and 10″x20″.

All Appalachian Floor Tile is quarried, milled and sold by the Appalachian Marble Co., the manufacturers of Appalachian Tennessee Marbles.

APPALACHIAN CRUSHED TENNESSEE MARBLE AND TENNESSEE GRANITO

Beautiful bright, light colored crushed Appalachian Tennessee Marble suitable for the very finest terrazzo work and stucco work can be delivered within the shortest possible time. Marble dust and sizes Nos. 1, 2 and 3 Tennessee Granito can be shipped promptly.

APPALACHIAN RUBBLE MARBLE

One man size stones, Appalachian quarried and rough hewn have been used considerably in the past. Beautiful rugged effects may be obtained with this material. Full information and prices will be sent on request.

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

The Story of

TENNESSEE MARBLE

As told by - - - T. NELSON DALE, Retired Geologist, U. S. Geological Survey

COLORS AND SHADES: The colors and shades of Tennessee marbles include gray (light or medium), pink (light, medium or deep), mixed gray and reddish or pinkish, dark reddish to purplish (chocolate-colored), also transitions from the deep pink to the chocolate-colored.

Fossil Constituents: Unlike the ordinary sugar-like marbles, which consist entirely of incomplete crystals of calcite, Tennessee marbles are made up almost entirely of the remains of marine animals of two sorts, bryozoa and crinoids; and these range in proportions from three-fifths bryozoa and two-fifths crinoids to one-third bryozoa and two-thirds crinoids, exceptionally to one-sixth bryozoa and five-sixths crinoids. A bryozoon (moss-animal) has a minute sack-like body enclosed in a horny or calcareous cell but always lives in communities or colonies, forming masses, films or shreds of various shapes with a minutely honeycombed surface. The bryozoa of these marbles had calcareous cells and their colonies formed nodules, lenses or branching leaf-like objects on the sea-floor. A crinoid (sea-lily) has a plant-like outer skeleton with an articulated stem, usually rooted, and bearing a cup of calcareous plates containing the alimentary organs. The parts most frequently preserved are small fragments or sections of the stem showing a central tube.

Chemical Composition: Three recent analyses, by a chemist of the U. S. Geological Survey, of a gray, a pink and a chocolate-colored Tennessee marble show that the relative redness of the stone is due to percentages of Ferric oxide (Fe_2O_3) and Manganese oxide (MnO) ranging together, only from 0.18 to 0.47 of 1 per cent, and that the amount of Calcium carbonate ($CaCO_3$) in the three marbles, assuming that all the lime is in the form of carbonate, ranges from 98.87 to 99.87 per cent.

Microscopic Texture: All these marbles, excluding the coarse-grained ones of Hawkins County, consist of (1), grains of twinned calcite, many of them with curved cleavage and twinning planes, formed about a more or less conspicuous crinoid fragment, in cases about two such. In some grains the crinoid fragment is outlined by a ferruginous rim with porous texture; in others it is only marked by a cloud of minute ferruginous specks surrounded by clear colorless calcite. The grains of (1) lie in (2), a very fine groundmass of calcite grains with many individual cells of disintegrated bryozoon colonies. These cells average 0.13 millimeters in width. In this groundmass are also leaf-like colonies (3) averaging 2.8 by 0.56 millimeters, exceptionally 0.4 by 0.05 inch. Finally (4), massive bryozoon colonies, usually sparse, forming lenses up to half an inch in diameter.

All the varieties of Tennessee Marble fall into **four textural groups:**

A. Bryozoon colonies largely disintegrated and crinoid fragments largely merged in the calcite of enclosing grain. The "Appalachian Gray" of the Brabson quarry of this Company belongs in this group.

B. Like A but bryozoon colonies more generally preserved and crinoid nuclei distinct.

C. With many well preserved half-inch sections of crinoid stems and with bryozoon masses up to an inch across.

D. Coarse. Consisting largely of large bryozoon masses, in places with groundmass of semi-crystalline limestone. The marbles of Hawkins County belong to this group.

The marbles of Group A contain about 26 per cent of bryozoon groundmass and 74 per cent of calcite grains enclosing crinoid fragments.

The determination of the grade of texture of Tennessee marble is rendered difficult by the difference in the texture of the grains of the groundmass and that of the coarser grains, and by the variable proportions of the two. However, an estimate has been made of the approximate average grain diameter of a specimen of "Appalachian Gray" which is 0.01 inch or 0.24 millimeter, but the average for Group A would be 0.007 inch or 0.19 millimeter.

The general inference from the microscopic study of Tennessee Marbles is that they originated in calcareous sediments the coarser particles of which were derived from the disintegration of crinoids and their attrition by currents. The finer particles came from the disintegration of colonies of delicate kinds of bryozoa but some of the more massive colonies persisted with little change. Later solution of calcium carbonate from both coarse and fine sediments by carbonated water took place followed by redeposition of calcium carbonate in crystalline state, filling up the bryozoon cells, the spaces between them, the pores and tubes of the crinoid stem fragments, and forming a coat of secondary calcite about these fragments.

Strength, Absorption, Specific Gravity and Porosity: The U. S. Bureau of Standards made careful tests of the compressive, transverse, and tensile strength and of the absorption, specific gravity and porosity of Tennessee marble for a U. S. Geological Survey Bulletin several years ago. Eight carefully selected specimens representing the gray, light and medium pink and the chocolate-colored varieties were tested.

One of these specimens was the "Appalachian Gray" of the Brabson quarry. The complete results of its tests are given in the following tables. Below these results is the average result of the tests of the seven other specimens. In order to show the difference between Tennessee marble and a sugar-like marble the Bureau made tests of a fine white Alaskan marble, "Tokeen," and the results are given at the foot of the tables.

TESTS OF COMPRESSIVE STRENGTH

Lab. No.	Trade Name	Comp. Strength, Dry Lbs. Per Sq. In.		Comp. Strength, Wet Lbs. Per Sq. In.	
2645	Appalachian Gray	17,205		17,101	
2645	Appalachian Gray	18,670		17,388	
2645	Appalachian Gray	18,948	Average 18,274	16,187	Average 16,892
Average of 7 other Tennessee marbles			16,627		16,578
Average of 8 tests, Tokeen, Alaska, marble			13,477		

Lab. No.	Trade Name	Comp. Strength, Frozen	
2645	Appalachian Gray	16,980	
2645	Appalachian Gray	18,292	
2645	Appalachian Gray	16,612	Average 17,295
Average of 7 other Tennessee marbles			16,202
Average of 7 tests, Tokeen, Alaska, marble			13,408

TESTS OF TRANSVERSE STRENGTH

Lab. No.	Trade Name	Modulus of Rupture Lbs. Per Sq. In.	
2645	Appalachian Gray	2,732	
2645	Appalachian Gray	2,567	
2645	Appalachian Gray	2,760	Average 2,686
Average of 7 other Tennessee marbles			2,539
Average of 3 tests, Tokeen, Alaska, marble			1,709

TESTS OF TENSILE STRENGTH

Lab. No.	Trade Name	Direction of Tension	Tensile Strength Lbs. Per Sq. In.	Average
2645	Appalachian Gray	Transv. to Bed	1,520	
2645	Appalachian Gray	Transv. to Bed	1,521	
2645	Appalachian Gray	Transv. to Bed	1,620	1,554
2645	Appalachian Gray	With the Bed	1,493	
2645	Appalachian Gray	With the Bed	1,578	
2645	Appalachian Gray	With the Bed	1,582	1,551
Average of 7 other Tennessee marbles.		Transv to bed		1,372
Average of 7 other Tennessee marbles.		With the bed		1,241
Average of 3 tests, Tokeen, Alaska.		Transv. to bed		911

TESTS OF ABSORPTION, SPECIFIC GRAVITY AND POROSITY

Lab. No.	Trade Name	Per Cent of Absorption (Weight)	Average	Apparent Spec. Grav.		Average True Spec. Grav.	Porosity % of Pore Space
2645	Appalachian Gray	0.042		2.705			
2645	Appalachian Gray	0.040		2.706			
2645	Appalachian Gray	0.058	0.047	2.705	2.705	2.718	0.478
Average of 7 other Tennessee marbles			0.062		2.705	2.723	0.538
Average of 3 tests of Tokeen, Alaska, marble,			0.099		2.715	2.727	0.48

HARDNESS, RESONANCE AND POLISH

In addition to the properties tested by the Bureau of Standards the qualities of hardness, resonance and polish must be considered. No perfectly reliable method of testing the hardness of marble has yet been devised. Prior to the recent war the Bureau began to construct an apparatus for making such tests but the press of war-work caused its indefinite postponement. The superior hardness of Tennessee marble to that of the sugar-like marbles is well-known to marble cutters. Tennessee marble also possesses a marked resonance and in that respect resembles the dolomite marble of Swanton, Vermont, and the Carrara marble of Italy, but differs greatly from some American sugar-like marble. Tennessee marble takes a high polish but in the polishing process the coating of the "crowfoot" (stylolite) is liable to drop out leaving small cavities which vary in size with that of the stylolite. Where the sutures are widely spaced or the stylolites minute the drawback is slight.

Inferences from the Physical Tests: The comparison between the relative strength and absorption of Tennessee marbles and the Alaskan sugar-like marble may be extended by considering some tests made by the same Bureau of sugar-like marbles of Massachusetts, Vermont and Georgia.

The white dolomite marble of Lee, Mass., has an average compressive strength of 19,317 pounds per square inch. This very high compressive strength, typical of all dolomite marbles, is largely due to the greater hardness of the mineral dolomite than of the mineral calcite. A white calcite marble (Rutland Italian) from West Rutland, Vermont, has an average compressive strength of 9,708 pounds; a gray calcite marble (Albertson Blue) from the same place averages 15,160 pounds. The average for the coarse Georgia marbles is 10,568 pounds and its tensile strength averages 604 pounds.

The great difference in tensile strength between Tennessee and Georgia marble is attributed to the fact that the points of contact between the grains of a fine marble and those of a very coarse one are vastly more numerous in the finer one and the cohesion of its grains therefore proportionately greater. The property of tensile strength not only bears upon certain architectural uses of the stone but is also an index of the relative availability of the stone for the most delicate sculptural ornamentation.

A rock with an exceedingly fine-grained groundmass, like that of Tennessee marble, with an average grain diameter of 0.001 inch and making up 17 to 60 per cent of the rock, and also containing irregular organic forms reenforcing the texture, ought to be stronger than one in which the entire rock is made up of grains 0.004 to 0.005 inch in diameter and it ought to be still stronger than one in which all the grains average 0.05 inch in diameter.

The property of non-absorption is an important factor in the value of marbles because of its bearing not only upon their durability in exposure but also upon their ability to withstand the effect of indoor exposure to oils, dyestuffs and other liquids. The average absorption of the eight Tennessee marbles tested is 0.06 per cent; that of the Alaska sugar-like marble is 50 per cent greater, and that of Georgia marble 62 per cent greater.

Conclusions: Tennessee marbles consist mainly of the calcareous remains of crinoids and bryozoa. The crinoidal fragments are enclosed in secondary crystalline calcite and the bryozoon cells and the interstices are also filled with it. In all but the dark marbles of Hawkins County crinoidal remains with the enveloping calcite make up roughly about two-thirds of the rock and bryozoa the rest. Most of the bryozoa form a very fine-grained groundmass or cement in which the crinoidal grains and the still entire bryozoon colonies are disseminated. The fineness and irregularity of this groundmass and the irregular forms of some of the bryozoa are elements of strength, affording more points of attachment and binding parts that are not contiguous and thus increasing the cohesion.

As shown by the tests these marbles possess from 13 to 37 per cent more compressive strength and up to 46 per cent more tensile strength than some sugar-like marbles. Their low percentage of absorption must also be attributed to the density of the groundmass. The cause of the superior hardness of Tennessee marble is obscure. It may be due to the combination of the organic with the crystalline arrangement of the molecules of its particles.

STANDARD SIZES

FLOOR TILE

Appalachian Floor Tile is available for immediate shipment in two standard sizes; 8″x16″ and 10″x 20″.

INTERIOR MARBLE

Appalachian Tennessee Marble is milled in standard thicknesses. They are (after honing and polishing) ⅞ in., 1¼ in., 1½ in. and 2 in. Other thicknesses are made to order. Marble ordered in these thicknesses are of course more economical than sizes manufactured to specified thickensses. Marble milled to standard thicknesses is always full size.

PRICE

Because of quantity production Appalachian Marbles, although as beautiful as the finest foreign marbles and superior in quality to the best of them are a great deal cheaper in price than imported marbles. They are likewise among the most economical of domestic marbles. If you will send us plans showing scope of interior marble work required on your next job we will gladly estimate costs for you and show you exactly how much money you can save your client by using beautiful Appalachian Marble.

Sample Erection Specifications as Written by Mr. Alex Reeves, Pres. and Gen'l. Mgr., Reeves Marble Co., Atlanta, Ga.

SPECIFICATIONS FOR LAYING MARBLE TILE FLOOR

The cinder fill should be brought to approximately 3 inches of the finished floor level, thoroughly tamped down, sprinkled, and all loose material removed. Prepare a mixture of cement and clean, screened sand for mortar purposes, consisting of one part cement and three parts of sand. This should be mixed thoroughly before wetting to avoid "lumping" of cement. Only enough water should be added to bring this mixture to "setting" state, care being taken to avoid a too wet mixture, which would cause tile to float while being bedded down.

Bed down tile on mortar bed, leaving same to set for twenty-four hours without molestation. Drench floor with plain water. Thoroughly fill in joints with pure cement grout; clean surfaces. Rub down to smooth finish with No. 80 Carborundum Stone, making all surfaces true, and finish with fine sand stone to remove any scratches.

STANDING WORK

SPECIFICATIONS FOR SETTING MARBLE BASE, DIE, CAP, WAINSCOT AND OTHER STANDING WORK

Provide anchors of copper wire concealed in edges (or top if available). There should not be less than four anchors to any stone containing as much as ten superficial feet. Provide more anchors in proportion to size of stone. Each piece of base should have not less than four anchors; two top and two bottom unless base runs below finish floor, in which case bottom anchors can be omitted. Anchor all cap pieces at each end. Provide bottom goose-necks to all cap pieces, occurring at least every three feet. All anchors should be securely plugged into marble and fastened into tile, concrete or brick walls with molding plaster (quick setting). Back up all standing work with spots of same plaster, distance between spots not to exceed fifteen inches in either direction.

SETTING STAIR WORK

Provide not less than four anchors to each riser, securing same as outlined for "standing work," and backing up the same. Drench the rough forms to prevent drying out of plaster and mortar when applied.

Butter top edges of risers with plaster Paris mixed thin. Spread over the tread surface of the rough form a mixture of cement mortar, similar to that used in floor laying.

Bed down treads on riser and cement mixture. Leave several spots on tread surface of rough form on which plaster spots (quick setting) may be placed to hold tread while cement mixture sets.

SETTING BANK SCREEN WORK

Follow specifications for "standing work" on all screen work to ledge height. All bases, pilasters, cap, cornices, etc., should be dowelled together, using heavy copper dowels (in no case less than 1/4" diameter). Butter all butting edges with molding plaster and fill all dowel holes with a slush of same material.

SAMPLE SPECIFICATIONS FOR INTERIOR MARBLE WORK

As written by Engineering Department of Appalachian Marble Company.

1. All Marble shall be Appalachian Tennessee Marble furnished by the Appalachian Marble Company, and set under this heading as shown on plans and hereinafter specified, including the following:

2. (In general terms describe the scope of the marble work.)

3. The Contractor for marble work shall state in his bid the addition or deduction for the following alternates:

4. (Here state nature of alternates.)

5. *Detail and Shop Drawings.* Full size detail drawings will be furnished by the Architect for all moulded and ornamental work, and these must be followed accurately in the execution of the work. The Contractor shall furnish all required setting drawings and furnish copy of same to the Architect for approval.

6. *Samples.* Average samples of the marbles specified, showing finish, texture, etc., shall be submitted to the Architect for approval before any of the work is cut or finished.

7. *Construction.* Intersecting profiles and angles shall be carefully connected and cut, and all plane surfaces shall be true and out of wind. All work shall be carefully fitted and set, bedded in and backed up with mortar.

8. *Protection.* All work herein included shall be carefully protected during the progress of the work.

9. *Marble Thresholds.* Where marked on plans, furnish (specify grade) marble thresholds, (   ) thick, of proper width as detailed, to have beveled edge (or set flush as called for), and to be properly fitted to jamb and plinths.

10. *Marble Plinths.* Where marble base is called for, provide (specify grade) marble plinth blocks same height as base and of width and thickness to properly receive base and door trim.

11. *Special Work.* (Designate nature and extent of any special work not clearly shown or hereinbefore described.)

12. *Marble Floors.* Where shown on plans, marble floors shall be (grade) marble, $\frac{7}{8}$" thick sand rubbed and laid with tight uniform joints. Provide suitable border to match, as detailed.
Note—Stock tile sizes are 8"x16" and 10"x20".

13. *Marble Stairs.* All stairs so shown on drawings shall have marble (specify grade) treads, platforms, risers and skirtings of the sizes marked on details. Skirtings shall extend around all walls, piers, landings, etc., in connection with stairs, and line with top of base on the respective floors.

14. *Wainscoting.* Furnish and install marble wainscot (   ) high wherever indicated on plans consisting of base die and cap of height shown on detail drawings. Wainscoting shall continue up wall side of all stairs where marble treads and risers are specified or shown unless otherwise indicated.

15. *Trim.* All doors opening into corridors and lobbies shall have moulded architrave as shown on detail drawings.

16. *Stools.* All windows in exterior walls shall have marble stools (   ) thick, to project at front and ends as shown on scale detail of typical window opening.

17. *Drinking Fountains.* Furnish and install marble drinking fountains where shown on plans, cut as shown on detail drawings.

18. *Plumbing Marble.* Furnish and set the marble (wainscot, partitions, stiles, caps, etc., as required) throughout all toilet rooms, as shown on drawings and scale details. Toilet room wainscot shall be (   ) high by $\frac{7}{8}$" thick. Where windows occur below top of wainscot, provide marble stool (   ) thick, together with jamb pieces to line with top of wainscot. Stall partitions shall be (   ) high and (   ) thick. Intermediate partitions shall be $\frac{7}{8}$" thick, set (   ) above the floor, and let into wall wainscot and hanging stiles.

19. All hanging stiles shall be (   ) thick and shall be grooved to receive partition and shall extend at least 1" below floor.

20. Urinals in men's and boys' toilet rooms shall be of the (   ) type and shall have $\frac{7}{8}$" thick partitions of (specify grade) and marble with rounded tops (   ) high and (   ) thick.

21. Provide marble cap (specify size) across fronts of all water closet compartments, securely doweled into stiles. Where water-closet backs are furred out to clear pipes, provide and set marble cap or shelf over pipe space.

22. All N. P. brass angles, braces, bolts and other hardware for setting of plumbing marble shall be furnished by setting Contractor.

23. *Setting.* Set all floor marble in a solid bed of cement mortar, completely filling all joints with this grout after floors are laid. All standing marble shall be set with heavy copper wire, doweled into the marble and securely fastened to the backing.

24. *Finish.* All marble shall be highly polished (or honed) except stair treads, thresholds and floor marble, which shall be fine sand rubbed. All wainscot and wall work shall be closely matched for color, veining, etc.

25. *Jobbing.* In general, do all cutting and jobbing for marble work in its connection with the other trades.

26. *Cleaning.* All chips and rubbish shall be removed at the completion of the work, and all work shall be cleaned and left in a perfect condition, all to the satisfaction of the Architect.

APPALACHIAN MARBLE COMPANY
KNOXVILLE TENNESSEE

Send Blue Prints and Specifications to Appalachian Service Department for Cost Estimate.

THE APPALACHIAN SERVICE DEPARTMENT

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KNOXVILLE - TENNESSEE

Cost Information Service

We believe that the most helpful service that we can perform for America's architects and contractors is the figuring of accurate interior marble cost information for them.

We have gathered together, therefore, a group of interior marble experts who are capable of making a budget of costs on interior marble quickly and exactly.

To use this splendid service department you need only send blue prints or specifications on the interior job planned to "Service Department, Appalachian Marble Company, Knoxville, Tennessee." Here they will receive immediate attention and exact cost figures will be placed in your hands at the earliest possible moment. These figures will have been compiled by expert interior marble engineers and will be exactly and most carefully computed.

Your time and your money are saved by the use of this service which is freely offered.

Information and Advisory Service

Frequently engineering problems arise in connection with the purchase, use or installation of interior marble. Often these problems require the study of an engineer who has been especially trained in the interior marble field.

The Service Department of the Appalachian Marble Company is always at your right hand in cases of this kind, willing, even anxixous, to help you to the solution of the problem. There is no charge for this service, of course, whether Appalachian Marble has been specified on the job in question or not.

Delivery Service

Our ability to deliver finished marble at the shortest possible notice is considered by many architects and contractors as the most important service that we render.

We like to cooperate when the necessity for extraordinary speed in delivery is desired.

We recently had a job put up to us by a contractor, who despaired of our or anyone else's ability to handle it. He needed two car loads of finished interior marble within two weeks. We took the job. We delivered the marble on time.

This is only a single example of a long list of equally remarkable deliveries which we have made in a spirit of cooperation.

When you need out-of-the-ordinary service get in touch with us.

APPALACHIAN MARBLE COMPANY
KNOXVILLE - TENNESSEE

Additional pages will be furnished from time to time for this catalog. Be sure to file all additional pages as you receive them.

Appalachian Marble Co.'s Mill

The Appalachian Marble Company's fifteen-acre mill property has one-half mile of railroad tracks with continuous loading points to facilitate rapid loading of all shipments.

The mill, with 2½ acres' floor space, is one-story construction to provide for efficient and economical handling of marble. Yearly handling capacity is 200,000 cubic feet, or a daily capacity of three carloads of finished marble. Use of hydro-electric power further lessens production cost.

The mill is located in the heart of a marble district where its employees are the third and fourth generations of trained marble workers.

Because marble has been manufactured in this district for over 60 years, freight rates from Knoxville are estimated at commodity rates to all points in the United States and Canada. Knoxville is the most strategic marble shipping point in the country.

The mill turns out over one-half of the finished Tennessee marble manufactured in the Knoxville district. It has 28 gang saws, 10 rubbing beds and twice as much finishing machinery, including planers, lathes and carborundum machines, as is actually required for sawing capacity, so as to be able to rapidly take care of all orders for marble. The mill has two units, each being an independent plant, and duplicate equipment throughout, so as to guard against delays which might be caused through any breakdowns.

Every bit of marble waste is utilized and sold, which enables the Appalachian Marble Company to make its marble more cheaply.

The Appalachian Marble Company has manufactured marble for thirteen years and annually sells $1,000,000 of Appalachian Marble to England, Canada, Cuba, Latin America and every state of the Union.

APPALACHIAN MARBLE COMPANY
KNOXVILLE ~ TENNESSEE

Send Blue Prints and Specifications to Appalachian Service Department for Cost Estimate.

Appalachian Marble Co's. Quarry

The Appalachian Marble Company's quarry holdings are so great that its marble actually in sight will not be exhausted within a century. The quarry equipment includes nine 115 feet high, 50-ton derricks, sixty drills and six chandlers of the most modern type.

The Company has a six hundred horsepower boiler plant and uses all steam with condensing plant of latest and most economical design. It has duplicate air compressors driven by Corliss engines.

The Company has its own shop facilities which allow it quickly to do its own repairs at the lowest possible cost.

The quarry capacity is in excess of the milling capacity. All quarry waste is made into lime. There is absolutely no non-productive waste from either mill or quarry.

The Appalachian Marble Company stores its own production in order to create a reserve supply for the convenience of its customers.

Because it provides unusually good living conditions, including sixty houses for its employees and a fine modern boarding house, the Company has a very small labor turnover. Orders placed with the Company are not subject to delays that might result from labor troubles.

Orders placed for Appalachian Marble receive instant attention and are rapidly routed through from quarry to mill to loading on railroad cars.

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Increased Mill Capacity

There is a constantly increasing demand for Appalachian Marble, due to its beauty and superior qualities.

To render as perfect service as possible in supplying this demand, the mill capacity of the Appalachian Marble Company is continually being enlarged. It is the invariable rule that capacity shall always be increased *before* instead of after it is necessary.

At the present time new gangs, motors and buildings have already been purchased for the installation of eight additional gangs. These new gangs, costing approximately $100,000.00, should be ready for operation by the early fall of 1923, and will increase the manufacturing capacity 30 per cent.

The present over-capacity of the finishing department is large enough to easily take care of all marble sawn by the eight additional gangs.

When Appalachian Marble is specified there is no danger that it cannot be obtained in the quantity wanted and at the time wanted.

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